

What is claimed is:

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1. The method of obtaining information from each of a plurality of diverse data resources having different characteristics which comprises, in combination, the steps of:

storing a separate service description for each given data resource in a database, each of said service descriptions including:

- the address to which an output information request directed to said given data resource may be transmitted,
- a specification of the nature of the input information to be supplied to said given data resource with said output information request, and
- a description of the nature of the output information to be supplied by said data resource in response to said output information request,

issuing a service request identifying a particular resource from an executing application program, and

executing a service interface program in response to said service request, said service interface program performing the steps of:

- obtaining the particular service description for said particular resource from said database,
- transmitting an output information request to the address specified in said particular service description,
- supplying input information meeting the specification contained in said particular service description to said particular resource, and
- routing output information provided by said particular resource in response to said output information request to said executing application program.

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1 2. The method as set forth in claim 1 wherein said step of storing a separate service
2 description or each given data resource comprises registration means for accepting service
3 description information in a predetermined format.

1 3. The method as set forth in claim 2 wherein said predetermined format is the
2 Extensible Markup Language.

1 4. The method as set forth in claim 3 wherein said service description as expressed
2 in Extensible Markup Language is validated against a Service Descriptor schema which specifies
3 the content of said Service Definition before each of said service descriptions is stored in said
4 database.

1 5. The method as set forth in claim 1 wherein said service descriptions as stored in
2 said database further comprise contact information specifying person or entity supplying the
3 resource described in said service description.

1 6. The method as set forth in claim 1 wherein said service descriptions as stored in
2 said database further comprise test information consisting of fixed input values and fixed output
3 values which enable said service interface program to performs automatic testing of the described
4 resource by sending said fixed input values to said resource and comparing the resulting output
5 from said resource with said fixed output values

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7. The method as set forth in claim 1 wherein said service descriptions as stored in said database further comprise security information for ensuring that requests for output information originate from an authorized source before that request is satisfied.

8. Apparatus for processing a request for information from a specified which comprises, in combination,
a database for storing service descriptions for each of a plurality of different resources, each of said services descriptions comprising an input processing specification, an resource address, and an output processing specification,
means for receiving said request from a client location,
means for retrieving the service description for said specified resource from said database,
means for processing said request in accordance with the input processing specification contained in said service description for said specified resource to produce a reformatted request,
means for transmitting said reformatted request to the resource address contained in said service description for said specified resource;
means for receiving a raw response from said specified resource in response to said reformatted request,
means for processing said raw response in accordance with said output processing specification contained in said service description for said specified resource to produce a reformatted response, and
means for transmitting said reformatted response to said client location

9. Apparatus as set forth in claim 8 further including registration means for accepting descriptive data from a remote location and for processing said descriptive data to form one of said service descriptions stored in said database.

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1 10. Apparatus as set forth in claim 9 wherein in said input processing specification
2 includes the designation of an input adaptor program which, when executed, performs at least
3 some of the processing of said request to produce said reformatted request

1 11. Apparatus as set forth in claim 10 wherein said output processing specification
2 included the designation of an output adaptor program which, when executed, performs at least
3 some of the processing of said raw response to produce said reformatted response.

1 12. The method of obtaining information from different characteristics which comprises, in
2 combination, the steps of:

3 storing a separate service description for each given data resource in a database, each of
4 said service descriptions including:

5 the address to which an output information request directed to said given data
6 resource may be transmitted,

7 an input specification of the nature of the input processing to be performed on
8 each request before being supplied to said given data resource

9 an output specification of the nature of the output processing to be performed on
10 each response from a given data resource before that response is returned to a requesting
11 application program, and

12 receiving a service request identifying a particular resource from an executing application
13 program, and

14 executing a service interface program in response to said service request, said service
15 interface program performing the steps of:

16 obtaining the particular service description for said particular resource from said
17 database,

18 processing said service request in accordance with the input specification
19 contained in said particular service description to produce an output information request,

20 transmitting said output information request to the address specified in said
21 particular service description,

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23 receiving raw output data in response to said output information request,
24 processing said raw output data in accordance with said output specification to
25 produce reformatted output information, and
transmitting said reformatted output to said executing application program

1 13. The method as set forth in claim 12 wherein said step of storing a separate service
2 description or each given data resource comprises registration means for accepting service
3 description information in a predetermined format.

1 14. The method as set forth in claim 13 wherein said predetermined format is the
2 Extensible Markup Language

1 15. The method as set forth in claim 14 wherein said service description as expressed
2 in Extensible Markup Language is validated against a Service Descriptor schema which specifies
3 the content of said Service Definition before each of said service descriptions is stored in said
4 database.

1 16. The method as set forth in claim 12 wherein said service descriptions as stored in
2 said database further comprise contact information specifying person or entity supplying the
3 resource described in said service description

1 17. The method as set forth in claim 12 wherein said service descriptions as stored in
2 said database further comprise test information consisting of fixed input values and fixed output
3 values which enable said service interface program to perform automatic testing of the described
4 resource by sending said fixed input values to said resource and comparing the resulting output
5 from said resource with said fixed output values.

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18. The method as set forth in claim 12 wherein said service descriptions as stored in said database further comprise security information for ensuring that requests for output information originate from an authorized source before that request is satisfied